



Proposed Code Change
State Form 41186R

RETURN TO:
INDIANA DEPARTMENT OF HOMELAND SECURITY
CODE SERVICES SECTION
302 W. Washington Street Room W246
Indianapolis, IN 46204

FOR OFFICE USE ONLY

Received 7/13/09

Code 62.05-09

INSTRUCTIONS:

Only TYPED copy accepted.

(KEY – Dashed line through material to be deleted, underline material to be added)

Use second sheet for any material requiring more space.

Code Title		Edition
Indiana Residential Code		2009
Section number and title		Page
E3705.3		670
Proponent	Title	
Charlie Eldridge	Consultant	
Address		Phone
551 Grassy Ln., Indianapolis, IN 46217		(317) 370-3444
PROPOSED CODE CHANGE (Check One)		
<input type="checkbox"/> Change to read as follows <input checked="" type="checkbox"/> Add to read as follows <input type="checkbox"/> Delete and substitute as follows <input type="checkbox"/> Delete without substitution		
<p>E3705.3 Adjustment factor for conductor proximity. Where the number of current-carrying conductors in a raceway or cable exceeds three, or where single conductors or multiconductor cables are stacked or bundled for distances greater than 24 inches (610 mm) without maintaining spacing and are not installed in raceways, the allowable ampacity of each conductor shall be reduced as shown in Table E3705.3.</p> <p>Exceptions:</p> <ol style="list-style-type: none">Adjustment factors shall not apply to conductors in nipples having a length not exceeding 24 inches (610 mm).Adjustment factors shall not apply to underground conductors entering or leaving an outdoor trench if those conductors have physical protection in the form of rigid metal conduit, intermediate metal conduit, or rigid nonmetallic conduit having a length not exceeding 10 feet (3048 mm) and the number of conductors does not exceed four.Adjustment factors shall not apply to type AC cable or to type MC cable without an overall outer jacket meeting all of the following conditions:<ol style="list-style-type: none">Each cable has not more than three current carrying conductors.The conductors are 12 AWG copper.Not more than 20 current-carrying conductors are bundled, stacked or supported on bridle rings. A 60 percent adjustment factor shall be applied where the current-carrying conductors in such cables exceed 20 and the cables are stacked or bundled for distances greater than 24 inches (610 mm) without maintaining spacing.<u>Adjustment factors shall not apply to bundled cables ran in bored holes, or cut notches in joists or interior walls in dwellings where all of the following conditions are met:</u><ol style="list-style-type: none"><u>Where these cables are run in bored holes in a wall, floor, or ceiling space and where the ambient temperature will not exceed 30°C in normal use.</u><u>Larger than 15 and 20 ampere circuits shall not be permitted.</u><u>Where thermal insulation is encountered, E3705.4.4 shall be followed.</u>		
REASON AND FISCAL IMPACT		
<p>Where there are cables run in bored holes in joists with spacing between each joist, the maximum load on these cables will never be used because of the load profiles in dwelling units. The temperature rise of these cables is minimal under these conditions. By limiting this exception to 15 and 20 ampere circuits, the range, dryer, electric furnace, etc. are excluded and the likelihood of more than one or two heavily loaded circuits are eliminated.</p> <p>The code now requires multiple holes to be bored in floor joists to accommodate the runs and building regulations limit the amount of these holes that can be safely bored into floor joist. This places an undue burden on the electrician to find exit routing from panelboards. This proposal will provide some relief from the stringent requirements for cables with 90°C rated conductors.</p> <p>The reason that I believe this proposal has merit is the way residential circuits are loaded. If I bundled all the 15 and 20 ampere circuits in my home together, I would have a large bundle and not use but three or four circuits at a time. I get up and will use the bathroom circuit and kitchen circuit; I'll have a few lights on and then the garage door opener. The water heater circuit is 30 amperes so it would not be included.</p> <p>Now go through each part of your day in the same manner. The heavy load will be at dinner. The small appliance branch circuits will be used along with the kitchen and eating area lights. Let's do the laundry (can't count the 30A dryer circuit or the 30A WH circuit) and run the dishwasher. We are hitting 2 SA, 1 DW, 1 washer, and misc. lights. Where is the overloaded bundle?</p>		
REVIEW RECOMMENDATION		

Approve
Disapprove
Approve as amended
Further Study